

+Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
)
Emergency Communications by Amateur) GN Docket 12-91
Radio and Impediments to Amateur Radio)
Communications)

To: The Commission
Via: Electronic Comment Filing System (ECFS)

COMMENTS OF MR. GERALD W. MURRAY, WA2IWW, IN RESPONSE TO PUBLIC NOTICE

Pursuant to the *Public Notice*, DA 12-523, released April 2, 2012 (the *Public Notice*), Mr. Gerald W. Murray, WA2IWW, respectfully submits comments on the uses and capabilities of Amateur Radio Service communications in emergencies and disaster relief; on the importance to the United States of emergency Amateur Radio service communications; and on impediments to enhanced Amateur Radio Service emergency communications. Mr. Murray submits the following, and incorporates by reference the Exhibits attached hereto.

Questions

The Commission posed specific questions to provide structure for commenters. I will address each of the questions in the order presented.

1. **Importance of emergency Amateur Radio Service communications.** As noted above, the statute requires a review of the importance of emergency Amateur Radio Service communications relating to disasters, severe weather, and other threats to lives and property.
 - a. **What are examples of disasters, severe weather, and other threats to life and property in which the Amateur Radio Service provided communications services that were important to emergency response or disaster relief? Provide examples of the important benefits of these services.**

Exhibit A of the ARRL response for this proceeding lists 137 “examples of recent emergency communications efforts by amateur radio operators”.

In my own experience, I have participated in the responses listed below:

Event Name	“Storm of the Century”
Start Date	3/13/1993
End Date	3/14/1993
Served Agency	American Red Cross
Location(s) of Emergency	New York State Capital District Region

Event Name	Ice Storm '98
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Start Date	1/10/1998
End Date	1/23/1998
Served Agency	New York State Emergency Management Office (NYSEMO)
Location(s) of Emergency	Northern New York State

Event	Y2K Event
Start Date	12/31/1999
End Date	1/1/2000
Served Agency	New York State Emergency Management Office (NYSEMO)
Location(s) of Emergency	Nationwide

Event Name	September 11 Attacks
Start Date	9/11/2001
End Date	9/12/2001
Served Agency	New York State Emergency Management Office (NYSEMO)
Location(s) of Emergency	New York City, NY; Washington, DC; Shanksville, PA

Event Name	Rain/River Flooding
Start Date	4/3/2005
End Date	4/3/2005
Served Agency	National Weather Service (NWS)
Location(s) of Emergency	New York State Capital District Region

Event Name	Mohawk River Flooding
Start Date	6/29/2006
End Date	6/30/2006
Served Agency	American Red Cross
Location(s) of Emergency	New York State Capital District Region

During the 1998 Ice Storm in Northern New York, there were widespread power outages and communications failures.

After the 9/11 attacks, the main incoming phone number for the American Red Cross of Northeastern New York (located in Albany, NY), was constantly busy. Important message traffic was passed between the Albany County Emergency Operations Center and the Red Cross using 2-meter FM amateur radio.

- b. Under what circumstances does the Amateur Radio Service provide advantages over other communications systems in supporting emergency response or disaster relief activities? Under what circumstances does the Amateur Radio Service complement other forms of communications systems for emergency response or disaster relief?**

Amateur radio provides distributed and decentralized communications backbones, which do not depend on infrastructure, and which have no single points of failure. These characteristics are very valuable during power outages, and when communications facilities have failed, or are overloaded. However the ability to further develop and maintain these backbones is increasingly

at risk, as restrictive codes, covenants and restrictions are becoming increasingly pervasive over time.

Amateur radio can provide interoperability between various disparate systems in different geographical areas.

Amateur radio has great flexibility and can quickly enhance interoperability in an emergency situation. Subject to the capabilities of available equipment and the license class privileges of available amateur radio operators, amateur radio stations may make any and all of the changes listed below without requiring prior notification to or requiring prior approval from the Federal Communications Commission:

- Changes in the number of amateur radio stations in a network or system.
- Changes in operational area(s).
- Changes in the output power of amateur radio stations (up to the legal limit).
- Changes in antenna locations and heights (subject to FCC Part 17 requirements, FAA requirements, state and local zoning laws, and codes, covenants, and restrictions which may apply to certain land parcels).
- Changes of antenna type, gain, polarization, or azimuth headings.
- Changes of operating frequencies and emission type(s).
- Ability to reconfigure radios to change frequencies or other options in the field without the use of a computer, specialized vendor programming software, special interface cables, or specialized operator training.
- Ability to operate North of Line A (except between 420 and 430 MHz). A full description and analysis of Line A are included as Exhibit A.
- Ability to operate East of Line C. A full description and analysis of Line C are included as Exhibit A.

By contrast, stations in the Land Mobile Radio Service which seek to make any changes which are not currently authorized by existing available licenses or available through the use of designated federal, nationwide, state, county, or local interoperability channels would have to file an application for a new license, a license modification, or a Special Temporary Authorization (STA) using FCC Form 601, Schedule D, and Schedule H.

Compiling the necessary information to complete and submit FCC Form 601 and the associated schedules can be difficult in an emergency situation. The information fields to be completed are described in the instructions which are included with the FCC Main Form 601 and the various schedules. These requirements include:

- Latitude and Longitude coordinates must be accurate to within 0.1 seconds of arc.
- Ground elevations Above Mean Sea Level (AMSL) must be accurate to within 0.1 meters.
- Antenna Height Above Ground Level (AGL) must be accurate to within 0.1 meters.
- Antenna Height Above Average Terrain (HAAT) must be accurate to within 0.1 meters.

- An exact description of the antenna mounting arrangement is required.

Electronic filing of Form 601 and associated schedules may be difficult from locations which have disruptions to power, telephone service, or Internet service. It may be necessary to use some alternate communications means (such as amateur radio, satellite phone, satellite data link, or hand-delivery by courier) to relay the necessary information to a location where an FCC Form 601 application could be completed and filed electronically.

As noted above, application(s) for stations which are in close proximity to Canada may require international coordination which may require long periods of time for review and approval. In some cases, the requirements to protect certain pre-existing stations in Canada may cause the application(s) to be denied.

- c. What Federal Government plans, policies, and training programs involving emergency response and disaster relief currently include use of the Amateur Radio Service? What additional plans, policies, and training programs would benefit from the inclusion of Amateur Radio Service operations? How would Amateur Radio Service operations fit into these plans and programs?**

It would be extremely helpful to require that Federal, State, and local governments develop relationships and forge working partnerships with the Radio Amateur Civil Emergency Service (RACES), the Amateur Radio Emergency Service (ARES), and with local amateur radio clubs. These introductions should occur well ahead of the next disaster. After the “meet and greet” phase, the agencies and the amateur radio communities could and should work together on advance planning, as well as on training and exercises.

- d. What State, tribal, and local government plans, policies, and training programs involving emergency response and disaster relief currently include use of the Amateur Radio Service? What additional plans and programs would benefit from the inclusion of Amateur Radio Service operations? How would Amateur Radio Service operations fit into these plans and programs?**

There is an active statewide RACES program running in New York State, and in several New York State counties. Recently, the ARRL’s Amateur Radio Emergency Service (ARES®) program has created a New York State ARES division which can operate in parallel with New York State RACES. This gives the New York State Office of Emergency Management (NY SOEM) to have the flexibility to instantly transition between ARES and RACES operations as the situation warrants.

- e. What changes to the Commission’s emergency communications rules for the Amateur Radio Service (Part 97, Subpart E) would enhance the ability of amateur operators to support emergency and disaster response? In addition, are there any specific changes that could be made to the technical and operational rules for the Amateur Radio Service (Part 97, Subparts B, C, and D) that would enhance the ability of amateur operators to support emergency and disaster response? What other steps could be taken to enhance the voluntary deployment and effectiveness of Amateur Radio Service operators during disasters and emergencies?**

§ 97.407 Radio amateur civil emergency service.

When RACES is activated, 47 CFR § 97.407 (c) requires that RACES stations may only communicate with other RACES or RACES-authorized stations. This requirement may serve to limit interoperability, and limit the effectiveness of the RACES service:

- Unless there is a nationwide RACES activation, State and local RACES may be active in some locations, but not others.
- A RACES or RACES-authorized station which is operating under state or local RACES in one location may need to communicate with a distant station in another location where RACES has not been activated.
- If RACES has been activated, the use of data transmission modes for interoperability may be problematic. Many of the data transmission modes operate with unattended stations, repeaters, radio gateways, store-and-forward BBS systems, Internet gateways, etc.. A message may traverse through several different attended or unattended stations in several different areas while operating in two or more of the radio services listed below:
 - Amateur stations operating under RACES (the Radio Amateur Civil Emergency Service)
 - Amateur stations operating under ARES (the Amateur Radio Emergency Service)
 - Amateur stations operating under neither RACES or ARES.
 - Stations operating under MARS (Military Auxiliary Radio System).

- f. **What training from government or other sources is available for Amateur Radio Service operators for emergency and disaster relief communications? How could this training be enhanced? Should national training standards be developed for emergency communications response?**

Recommended Communications and Emergency Management Training

Amateur Radio Relay League (ARRL)

- EC-001, Amateur Radio Emergency Communications Course (ARECC)
(a detailed course description is included as Exhibit B)
- EC-016, Public Service and Emergency Communications Management for Radio Amateurs (a detailed course description is included as Exhibit C)

FEMA Emergency Management Institute (EMI) Independent Study (IS) (no-charge on-line courses)

- IS-100, Introduction to Incident Command System (ICS)
- IS-200, Basic Incident Command System (ICS)

- IS-700, National Incident Management System (NIMS)
- IS-800, National Response Framework (NRF)
- IS-1, Emergency Manager, An Orientation to the Position
- IS-120.a, An Introduction to Exercises
- IS-130, Exercise Evaluation and Improvement Planning
- IS-139, Exercise Design
- IS-240, Leadership & Influence
- IS-241, Decision Making & Problem Solving
- IS-244, Developing and Managing Volunteers
- IS-250, Emergency Support Function 15 (ESF15), External Affairs
- IS-288, The Role of Voluntary Agencies in Emergency Management

FEMA Classroom Course (no charge)

- ICS-300, Intermediate Incident Command System (highly recommended, but it can be difficult to gain acceptance into a class due to high demand)

Other Recommended Training

American Heart Association (may be chargeable)

- First Aid
- Cardiopulmonary Resuscitation (CPR)
- Automated External Defibrillator (AED)

American Red Cross (may be chargeable)

- First Aid
- Cardiopulmonary Resuscitation (CPR)
- Automated External Defibrillator (AED)

National Weather Service (NWS)

- Basic SkyWarn spotter certification (no charge)
- Advanced SkyWarn spotter certification (no charge)

Various Organizations (usually chargeable)

- Defensive Driver Training

- g. What communications capabilities, e.g., voice, video, or data, are available from Amateur Radio Service operators during emergencies and disasters? Are there any future technical innovations that might further improve the Amateur Radio Service?**

Amateur radio is currently experiencing a growth phase in the use of data modes. New modes are constantly being developed, and many amateurs are obtaining equipment, setting up stations, training on the new modes, and developing decentralized robust backbone communications networks which do not depend on infrastructure, and do not have single-point failures.

- h. Are national standards in data transmission needed to enhance the ability of Amateur Radio Service operators to respond to emergencies and disasters? Are there restrictions with regard to transmission speeds that, if removed, would increase the ability of operators to support emergency/disaster response? If so, what issues could arise from removing these restrictions?**

The amateur radio service is largely experimental, and new data modes and emission types are constantly being developed and introduced. Attempts by the FCC issue rules which mandate the use of imposed national standards for data transmission would stifle innovation and creativity.

Changes in the rules related to increases of authorized emission bandwidths may serve to promote the development and deployment of new enhanced data transmission modes.

- i. Would it enhance emergency response and disaster relief activities if Amateur Radio Service operators were able to interconnect with public safety land mobile radio systems or hospital and health care communications systems? What could be done to enable or enhance such interconnections? What issues could arise from permitting such interconnections?**

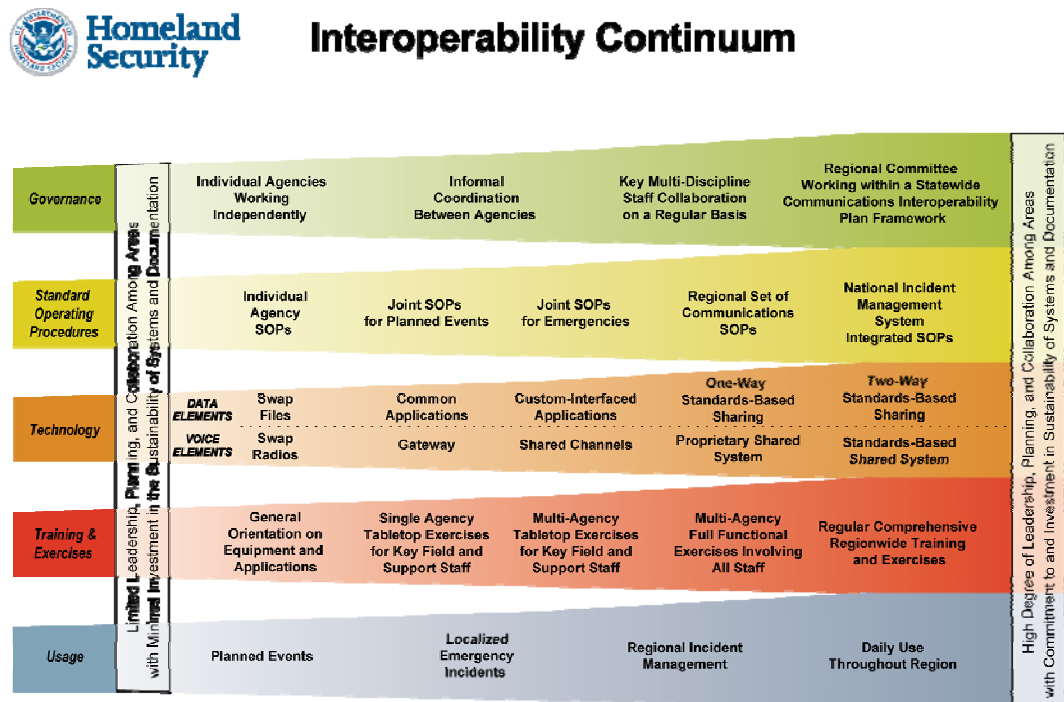
Although the concept of direct interconnection of amateur radio services with other radio services is intriguing, this should be approached with extreme caution. Any proposed regulations which would allow such interconnection would have to be carefully considered. Safeguards would have to be in place to protect the character and integrity of each radio service. Items to be considered include:

- Amateur radio service communications are subject to the “no business” rule, 47 CFR § 97.113.
- Some of the information on Public Safety frequencies may be “law enforcement sensitive” (LES).
- Some of the hospital traffic may be subject to HIPAA requirements.

Proposals to provide for interconnection of the amateur radio service to other radio services should be evaluated against the SAFECOM Interoperability Continuum which is promulgated by the Department of Homeland Security. The five levels of interoperability for the Technology Element (pictured as the third orange element in the Interoperability Continuum diagram) are listed below in rank order from the lowest level to the highest level of interoperability:

1. **Swap Radios** –This is actually being done in some cases, and is permissible under the current rules as long as licensed amateur radio operators are serving as control operators for the amateur radio stations.

2. **Gateway** – This would require changes to FCC rules, as cross-banding or interconnection of amateur radio service frequencies with other radio service frequencies is not permitted under the current rules.
3. **Shared Channels** – This is not permissible under current rules, as there are no amateur radio service frequencies in common with other land mobile or public safety radio services.
4. **Proprietary Shared System** - This would require changes to FCC rules, as cross-banding or interconnection of amateur radio service frequencies with other radio service frequencies is not permitted under the current rules.
5. **Standards-Based Shared System** - This would require changes to FCC rules, as cross-banding or interconnection of amateur radio service frequencies with other radio service frequencies is not permitted under the current rules.



Although some commenters in this proceeding may propose ideas and/or regulations for direct interoperability, these should be considered and addressed in a separate proceeding, which would consist of a petition, a Notice of Proposed Rule Making (NRPM), comment and reply comment periods, and a final memorandum opinion and order.

- j. **Should there be national certification programs to standardize amateur radio emergency communications training, mobilization, and operations? How would such programs improve emergency communications?**

Two courses are already available from the ARRL, the National Association for Amateur Radio:

- EC-001, Amateur Radio Emergency Communications Course (ARECC) (a detailed course descriptions is included as Exhibit B)
- EC-016, Public Service and Emergency Communications Management for Radio Amateurs (a detailed course description is included as Exhibit C)

The EC-001 course is also available in book form and may be used as a classroom aid, or for independent study (a detailed description of the book is included as Exhibit D).

The ARRL courses provide information on ICS and NIMS, guidelines on working with served agencies, information on the selection of equipment, frequencies, and communication modes, guidance on operating procedures, and guidance on public relations and dealing with the media.

Additional standardized nationwide courses and certifications on station operation and the various data transmission modes would be extremely beneficial.

2. **Impediments to enhanced Amateur Radio Service communications.** The statute also requires that the study identify impediments to enhanced Amateur Radio Service communications and recommendations regarding the removal of such impediments.

- a. **What private land use restrictions on residential antenna installations have amateur radio operators encountered? What information is available regarding the prevalence of such restrictions? What are the effects of unreasonable and unnecessary restrictions on the amateur radio community's ability to use the Amateur Radio Service? Specifically, do these restrictions affect the amateur radio community's ability to respond to disasters, severe weather, and other threats to lives and property in the United States? What actions can be taken to minimize the effects of these restrictions?**

Exhibit C of the ARRL response in this proceeding lists 91 examples of restrictive Codes, Covenants and Restrictions. Many of them specifically prohibit amateur antennas, shortwave antennas, satellite dishes, television receive only (TVRO) antennas, or even all antennas. Some of these CC&Rs place prohibitions or unreasonable restrictions on television antennas and/or satellite dishes. These CC&Rs are clearly in violation of the existing FCC "Over-the-Air-Reception Devices" (OTARD) Rule, 47 CFR § 1.4000.

- b. **What criteria distinguish "unreasonable or unnecessary" private land use restrictions from reasonable and necessary restrictions? How do local circumstances, such as neighborhood density or historic significance, affect whether a private land use restriction is reasonable or necessary? How does the availability of alternative transmitting locations or power sources affect the reasonableness of a particular private land use restriction?**

There are many "unreasonable or unnecessary" homeowner association rules, condominium deed provisions, etc. A partial (but by no means complete) list of unreasonable or unnecessary private land use restrictions would include:

- Complete prohibitions on antennas.
- Regulations related to "harmful interference" considerations, which are the exclusive domain of the FCC. (State governments, local governments, and private entities may not regulate for harmful interference).

- Requirements that antennas may not be taller than the structure.
- Requirements that antennas may not extend above the roof line.
- Requirements that limit antennas to certain types and/or models.
- Requirements limiting antennas to a certain size and/or location, regardless of performance characteristics.
- Requirements that antennas must be shielded by “mature vegetation” (i.e. fully-grown trees).
- Requirements that “crank up” towers be cranked down when not in use.
- Requirements that neighbors or HOA members would have to vote to approve antenna installations.
- Requirements that give total control and discretion to an HOA board or an architectural board without pre-established clearly-defined objective and reasonable criteria.
- Regulations which do not include a procedure for appealing adverse findings, opinions, and rulings.
- Requirements that antennas be a certain color.
- Prohibitions against “stealth” antennas which are totally concealed in an attic, vent pipe, flag pole, or other similar feature.
- Prohibitions against amateur radio antennas which have a size, shape, and appearance which are similar to television antennas which would be permissible under 47 CFR § 1.4000.
- Prohibitions against antennas which are located in areas which are under the exclusive control of a tenant or a homeowner.

Impact of limitations which preclude installation of antennas at home

- Amateur radio operators would not be able to operate their stations without leaving their homes. Most of these affected amateurs would not have access to another properly from which to operate an amateur radio station.
- The inability of amateur radio operators to set up fixed stations and antennas at their homes would preclude the establishment of many different types of stations in a stable, fixed environment:
 - Stations with generators which can operate for extended periods during an emergency
 - Analog repeaters
 - Digital repeaters
 - Internet Gateways
 - HF/VHF/UHF gateways
 - Medium and high power stations
 - Amateur Packet Reporting Systems (APRS) – both individual home stations and packet digipeaters
 - Amateur weather stations
 - Echolink and IRLP nodes
 - BBS stations which provide e-mail via amateur radio (Packet BBS, Winlink, etc.)
- The purported availability of “alternate transmission locations” as a viable option for amateur radio operators who are unable to install antennas at their homes is a myth:

- Most amateur radio operators would not have the financial means to own, rent, or obtain permission to use another property.
- Any alternate locations would have to be free of restrictive CC&Rs.
- Although it is possible, in some cases, to operate stations by remote control, it would be prohibitive for most amateur radio operators:
 - Most amateur equipment will not support remote control operation over the required distances.
 - Remote control would require additional expenditures for equipment, software, and interfaces.
 - Remote control operation would require a non-radio control link such as Internet or telephone line. These facilities may fail during an emergency or a disaster, thereby taking the amateur radio station off the air at the time that it is needed most.

c. What steps can amateur radio operators take to minimize the risk that an antenna installation will encounter unreasonable or unnecessary private land use restrictions? For example, what obstacles exist to using a transmitter at a location not subject to such restrictions, or placing an antenna on a structure used by commercial mobile radio service providers or government entities?

Placing an amateur transmitter at a location other than the home is generally impractical for most amateur radio stations:

- Placing only the transmitter at a different location would not be practical or helpful in most cases. If the reason for placing a transmitter at a remote site is related to CC&Rs restricting the placement of amateur antennas at the amateur radio operator's home, the restrictions would also apply to receivers and receive antennas. It would be necessary to relocate both the transmitter and receiver (or a combined transceiver) to the remote location.
- As noted above, the placement of a remote control amateur station at a location other than the amateur radio operator's home would require a complicated and expensive remote control system, which could fail during power outages or communications failures,
- There are a number of issues regarding sites and antenna structures which are owned by commercial mobile radio service providers or government entities:
 - The site owner may not be willing or able to place additional antennas on the antenna structure due to lack of available physical space, or due to structural issues such as required safety margins for weight, wind loading, or ice loading, etc..
 - The site owner may not have available rack space for an amateur radio station.
 - The site owner may not wish make available rack space available to an amateur radio operator for little or no cost. The owner may wish to rent any available rack space to government and commercial customers who are willing and able to pay higher costs.
 - Some site owners may not be willing to allow access to amateur radio operators, especially if the sites support "critical infrastructure".
 - If amateur radio operators are not allowed direct access to alternate sites to service their amateur radio stations, they would have to make alternate

arrangements to service their own equipment, even if they are capable of servicing the equipment on their own.

- Amateur radio operators who are not allowed to service their own equipment at alternate sites may not have a choice regarding the service provider – they may be required to use technicians who are directly employed by or under contract to the site owner.

- d. **Do any Commission rules create impediments to enhanced Amateur Radio Service communications? What are the effects of these rules on the amateur radio community's ability to use the Amateur Radio Service? Do disaster and/or severe weather situations present any special circumstances wherein Commission rules may create impediments that would not otherwise exist in non-disaster situations? What actions can be taken to minimize the effects of these rules?**

RACES Interoperability

As noted above, the current RACES rule requirement that RACES stations may only communicate with other RACES stations or RACES-authorization stations can impair the interoperability and effectiveness of the RACES service.

PRB-1 does not provide protection against unreasonable and unnecessary CC&Rs

PRB-1 in its present form provides no protection against restrictive Codes, Covenants, and Restrictions which would limit the installation of amateur radio facilities. Some hold the position that the FCC does not have the authority to intervene in private land use regulations.

In Section 207 of the Telecommunications Act of 1996, Congress directed that the Commission shall “pursuant to Section 303 of the Communications Act, promulgate regulations to prohibit restrictions that impair a viewer’s ability to receive video programming services through devices designed for over-the-air reception of television broadcast signals, multichannel multipoint distribution service, or direct broadcast satellite services”.

The Congressional order did recognize the FCC’s authority to preempt private land use regulations which served to thwart a compelling federal interest. The FCC did preempt local land use regulations, and promulgated the OTARD Rule (47 CFR § 1.004). This action has been upheld by the courts.

The purpose of the amateur radio service is defined in Part 97 of the Commission’s Rules (47 CFR § 97.3):

§97.3 Basis and purpose.

The rules and regulations in this Part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:

(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.

(b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.

- (c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communications and technical phases of the art.*
- (d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.*
- (e) Continuation and extension of the amateur's unique ability to enhance international goodwill.*

If the FCC has a compelling federal interest in protecting a television viewer's ability to receive news, information and entertainment programming, there is certainly a compelling federal interest in superseding unreasonable and unnecessary private land use regulations which would prevent amateurs from installing antennas and serving the purpose of the amateur radio service. Federal preemption of these overly restrictive requirements would serve the "public interest, convenience, and necessity".

- e. **What other impediments to enhanced Amateur Radio Service communications have amateur radio operators encountered? What are the effects of these impediments on the amateur radio community's ability to use the Amateur Radio Service? Specifically, do these impediments affect the amateur radio community's ability to respond to disasters, severe weather, and other threats to lives and property in the United States? What actions can be taken to minimize the effect of these impediments?**

PRB-1 not fully known, not fully understood, or completely ignored by state and local governments

The "Federal preemption of state and local regulations pertaining to Amateur radio facilities" provides limited protection against state and local ordinances which would limit the construction of amateur radio facilities. Since the PRB-1 memorandum opinion and order was released on September 19, 1985, many states and localities have failed to revise their laws to recognize the requirements of PRB-1. Some states and localities have even enacted new legislation which is invalid on its face and should be preempted by PRB-1. Unfortunately, any hams in this situation have to litigate these cases at their own personal expense. In other words, "PRB-1 does not pay court costs".

PR Docket 91-36 not fully known, not fully understood, or completely ignored by state and local governments

Even though PR Docket 91-36 was released on September 3, 1993, many state and local regulations regarding the installation of radios in vehicles have not been revised.

The text of Section 397 of the New York State Vehicle and Traffic Law has not been changed since PR Docket 93-16 was issued. The first sentence of Section 397 states:

A person, not a police officer or peace officer, acting pursuant to his special duties, who equips a motor vehicle with a radio receiving set capable of receiving signals on the frequencies allocated for police use or knowingly uses a motor vehicle so equipped or who in any way knowingly interferes with the transmission of radio messages by the police without having first secured a permit so to do from the person authorized to issue such a permit by the local governing body or board

of the city, town or village in which such person resides, or where such person resides outside of a city or village in a county having a county police department by the board of supervisors of such county, is guilty of a misdemeanor, punishable by a fine not exceeding one thousand dollars, or imprisonment not exceeding six months, or both.

The second sentence does contain an exemption for amateur radio operators:

Nothing in this section contained shall be construed to apply to any person who holds a valid amateur radio operator's license issued by the federal communications commission and who operates a duly licensed portable mobile transmitter and in connection therewith a receiver or receiving set on frequencies exclusively allocated by the federal communications commission to duly licensed radio amateurs.

Even though the second sentence exempts amateur radio operators, there are still cases in New York State in which amateurs are subjected to ticketing, arrest, imprisonment, and equipment confiscation for a misdemeanor criminal charge (not a traffic violation). Wrongful conviction under this section will subject the amateur radio operator to a fine of up to \$1,000 and/or imprisonment for up to six months.

This results in severe inconvenience and expense for licensed amateur radio operators who have done nothing wrong. Even after a dismissal or an acquittal, the misdemeanor arrest remains on the record thereby causing damage to an amateur radio operator's reputation.

This can be particularly damaging to persons who work in sensitive paid or volunteer positions which require background checks and/or security clearances. An improper arrest of an amateur radio operator made under Section 397 could result in having an experienced communications expert being prohibited from participating in emergency communications, emergency management, disaster relief or disaster recovery operations.

The full text for New York State Vehicle and Traffic Law Section 397 is included as Exhibit E. The full text of a court decision in a Section 397 case from the Town Court of the Town of LeRay in Jefferson County, NY is included as Exhibit F.

The City of Rochester Code prohibits the installation of radios which are capable of receiving police or fire frequencies in vehicles:

Section 44-2. Radio receiving sets.

A. No person shall use a portable receiver for the purpose of receiving signals on police or fire frequencies.

B. No person shall equip any motor vehicle with a radio receiving set capable of receiving signals on the frequencies allocated for police or fire use or knowingly use a motor vehicle so equipped or knowingly in any way interfere with the reception or transmission of radio messages by the Police or Fire Department.

These sections of the City of Rochester Code have not been modified since 5-28-1974. The relevant sections of the City of Rochester Code - Chapter 44 are included as Exhibit G.

- f. The legislation requires the Commission to identify "impediments to enhanced Amateur Radio Service communications." What specific "enhance[ments]" to Amateur Radio Service communications have been obstructed by the impediments discussed above?**

State and local laws or CC&Rs which prohibit or restrict the ability of licensed amateurs to build and maintain stations or antennas would severely limit the continuing deployment of new fixed home stations which support various data modes:

- Packet radio APRS
- Winlink 2000
- IRLP
- EchoLink and WIRES-II
- D-STAR
- APCO25
- HF sound card modes
- Automatic Link Establishment ("ALE")
- Other modes yet to be developed